

EXECUTIVE SUMMARY

In this executive summary, we provide a summary of the information provided in the staff report. The executive summary is written in “question and answer” format and includes:

- Background;
- SCM development process and evaluation of alternatives;
- Summary of the proposed Suggested Control Measure (SCM);
- Technical analysis of coating categories in the proposed SCM;
- Environmental Impacts;
- Economic Impacts; and
- Future Plans.

I. BACKGROUND

What are automotive coatings?

Automotive coatings, as defined in the SCM, are coatings that are applied to motor vehicles and mobile equipment. Automotive coatings are sold as components that must be mixed to be applied. The main coating categories include primers, color coatings, and clear coatings. These three broad categories of coatings account for about 84 percent of the sales reported in 2001. The remaining sales consist of a variety of coatings such as pretreatment coatings or adhesion promoters intended for use on bare metal or plastics. Automotive coatings, as defined in this SCM, do not include aerosol coatings (e.g., spray paint) or original equipment manufacturer coatings.

What are the emissions from automotive coatings?

The annual average volatile organic compound (VOC) emissions from automotive coatings are estimated to be about 20.7 tons per day in California in 2001 or about two percent of the total stationary source VOC emissions statewide. When automotive coatings are applied, the solvents that hold the coatings in suspension evaporate into the atmosphere and contribute to VOC emissions.

VOC emissions are precursors to the formation of ozone and particulate matter (PM), California’s most serious air quality problems. VOCs react photochemically with oxides of nitrogen (NO_x) to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system, increases airway hyperreactivity, increases airway inflammation, and damages plant life and property. Exposure to ozone is also associated with premature death, hospitalization for cardiopulmonary causes, asthma episodes and restrictions in physical activity. VOCs also react in the atmosphere to form PM which consists of very small liquid and solid particles suspended in the air. PM includes particles smaller than 10 microns in size (PM₁₀), as well as the subset of fine particles smaller than 2.5 microns in size (PM_{2.5}). PM₁₀ and PM_{2.5} are inhaled deeply into the lungs and reduce human pulmonary function. Premature deaths linked to PM₁₀ and

PM_{2.5} exposure are now at levels comparable to deaths from motor vehicles and second hand smoke. PM₁₀ and PM_{2.5} may also contain toxic compounds. In the atmosphere, PM₁₀ and PM_{2.5} reduce visibility.

Who is responsible for controlling VOC emissions from automotive coatings?

Control of emissions from automotive coatings is primarily the responsibility of the local air pollution control and air quality management districts (districts). However, the Air Resources Board (ARB) provides technical support to districts through the development of SCMs and other similar efforts. ARB staff, in cooperation with the districts, has developed the proposed SCM for automotive coatings. The SCM will serve as a model for districts when adopting and amending their automotive coatings rules. The proposed SCM, in part, relies upon the efforts of the Enforcement Managers Committee of the California Air Pollution Control Officers' Association. The proposed SCM reflects nearly four years of study of automotive coatings, and was developed in cooperation with the districts, the United States Environmental Protection Agency (U.S. EPA), and the affected industry.

Why are we proposing the SCM?

We are proposing the SCM to promote consistency and uniformity among district rules and to achieve VOC emission reductions. The proposed SCM will also improve the enforceability of the rules by simplifying coating categories and establishing individual VOC limits for color coatings and clear coatings.

The proposed SCM will achieve significant emission reductions from this category. Many of the facilities that use these coatings are located in or near residential areas and can create disproportionate impacts to neighborhoods. Reducing emissions in neighborhoods is part of the ARB's Environmental Justice Policies and Goals. The emission reductions achieved by the SCM will help the districts meet state implementation plan (SIP) and California Clean Air Act (CCAA) plan requirements.

How are emissions from automotive coatings controlled in the SCM?

Automotive coatings contain solvents which evaporate when they are applied. Most of the solvents used in automotive coatings are VOCs that contribute to California's air quality problems. The SCM controls VOC emissions by establishing limits on the VOC content of automotive coatings. These VOC limits are expressed in grams of VOC per liter of coating, less water and exempt compounds, and vary with each coating category. In general, manufacturers will meet the VOC limits by replacing some of the solvents in automotive coatings with water or other exempt compounds¹, or by increasing the amount of solids, such as resins and pigments or a combination of these approaches.

¹ Solvents with low photochemical reactivity

II. SUMMARY OF PROPOSED SUGGESTED CONTROL MEASURE (SCM)

What automotive coating categories are in the proposed SCM?

As shown in Table ES-1 below, the proposed SCM (see Appendix A) will establish VOC content limits for twelve coating categories of automotive coatings. Many of these automotive coating categories are similar to those in existing district rules. The SCM would lower VOC limits for many categories but would retain some VOC limits currently in effect in California.

Table ES-1 - Proposed Coating Categories and VOC Limits		
Coating Category	VOC regulatory limit as applied Effective January 1, 2009	
	grams/liter	(pounds per gallon*)
Adhesion Promoter	540	4.5
Clear Coating	250	2.1
Color Coating	420	3.5
Multi-Color Coating	680	5.7
Pretreatment Coating	660	5.5
Primer	250	2.1
Single-Stage Coating	340	2.8
Temporary Protective Coating	60	0.5
Truck Bed Liner Coating	310	2.6
Underbody Coating	430	(3.6
Uniform Finish Coating	540	4.5
Any other coating type	250	2.1

* English units are provided for information only. VOC limits are expressed in grams VOC per liter of coating, less water and exempt compounds.

How does the proposed SCM differ from existing district rules?

Current district rules have two sets of VOC limits for automotive coatings. The automotive coatings used on passenger cars typically have higher VOC limits than the automotive coatings used on large vehicles such as trucks and buses (commonly referred to as Group I and Group II vehicles). The district rules also have composite VOC limits for multi-stage systems that apply to the total VOC content of the color coat and clear coat combined. The proposed SCM would establish a single set of VOC limits for all automotive coatings and would eliminate the composite VOC limits for multi-stage systems. The key differences between the proposed SCM and the existing district rules are discussed below.

The SCM:

- Combines the Group I and Group II vehicle categories, and establishes the same VOC limits for passenger vehicles, heavy-duty vehicles, and mobile equipment. This would improve enforcement and simplify recordkeeping;
- Eliminates the composite VOC limit for multi-stage systems, and replaces it with specific VOC limits for clear coatings and color coatings. This would improve enforcement;
- Simplifies and combines district coating categories reducing the total number of categories from thirty-four to twelve. See Table IV-3 in Chapter IV for a list of coating categories typically found in district rules and the corresponding category in the proposed SCM;
- Eliminates the specialty coatings category and replaces it with two specific category limits. The survey data indicate that several coating types qualifying for a high VOC limit under the districts' specialty coatings category were not sold in California in 2001;
- Establishes a prohibition of possession provision, which would prohibit any person from having, at any automotive refinishing facility, coatings or solvents that do not comply with the proposed VOC limits. Only one district rule currently has a prohibition of possession. This would improve enforcement;
- Establishes a 25 grams per liter VOC limit for solvents used in cleaning operations, including surface preparation and spray gun cleaning. This limit is consistent with the most stringent district VOC limit for solvents which is in the South Coast Air Quality Management District (SCAQMD);
- Improves recordkeeping and labeling. The SCM sets consistent recordkeeping requirements for the coating end user. The SCM also establishes labeling requirements for coating manufacturers which would improve enforcement; and
- Exempts tertiary butyl acetate from the VOC definition to provide compliance flexibility.

A more complete discussion of the requirements of the proposed SCM can be found in Chapter III. The proposed regulatory language is in Appendix A. These proposed changes would provide statewide consistency and increase the enforceability of district rules.

Are any products exempt from the SCM?

Yes. The SCM does not apply to original equipment manufacturer (OEM) automotive coatings that are covered by separate district rules. The SCM also does not apply to

aerosol consumer products and aerosol coatings. However, these products are subject to the ARB's statewide consumer products and aerosol coatings regulations, respectively. Products manufactured for use outside of the applicable district, or for shipment to other manufacturers for reformulation or repackaging are also exempt.

Who would be affected by the proposed SCM?

If adopted by the districts, the proposed SCM would apply to anyone who sells, supplies, offers for sale, or manufactures any automotive coatings for use within the applicable district, as well as any person who applies or solicits the application of any automotive coating within the district. The primary impact would be on manufacturers and users of the coatings. Manufacturers would need to reformulate some products. Distributors of automotive coatings would also be impacted.

Distributors and retailers who must ensure that they are selling or supplying products that comply with the new VOC limits will be impacted. Because of the competitive nature of this industry, some distributors may incur additional costs because they elect to absorb some of the cost to transition automotive refinishing facilities to using lower VOC coatings. Suppliers of resins, solvents, and other ingredients may be impacted, depending on whether demand for their products changes. Although determined to be small, the cost to consumers for vehicle refinishing may increase for some automotive coatings.

Which districts are expected to adopt the proposed SCM?

At a minimum, we expect the 20 districts that currently have automotive coatings rules to amend their rules based on the SCM. These districts are listed in Table ES-2 below. SCAQMD is expected to be the first district to adopt the SCM.

We have worked closely with the districts in developing the SCM. As a result, we encourage districts to adopt the SCM without major changes. We recognize that districts have the authority to include limited and specific exemptions to meet local needs. However, we anticipate that VOC limits, definitions, and implementation dates will not be changed. This will help to achieve uniformity across the State.

Districts without specific rules for automotive coatings may want to consider adopting the SCM to help them achieve the State and federal ambient air quality standards. Districts without specific automotive coatings rules will continue to be subject to the VOC limits in the U.S. EPA's National Rule.

Table ES-2 - Districts with Automotive Coatings Rules	
Antelope Valley APCD	Sacramento Metropolitan AQMD
Bay Area AQMD	San Diego County APCD
Butte County APCD	San Joaquin Valley Unified APCD
El Dorado County APCD	San Luis Obispo County APCD
Feather River AQMD	Santa Barbara County APCD
Glenn County APCD	Shasta County AQMD
Imperial County APCD	South Coast AQMD
Kern County APCD	Tehama County APCD
Mojave Desert AQMD	Ventura County APCD
Placer County APCD	Yolo-Solano County AQMD

III. SCM DEVELOPMENT PROCESS AND EVALUATION OF ALTERNATIVES

How did ARB staff develop the proposed automotive coatings SCM?

The SCM was developed in cooperation with districts, the U.S. EPA, the automotive coatings manufacturers, the collision repair industry, and other interested parties. The SCM development process included the following activities: (1) a comprehensive survey of automotive coatings manufacturers; (2) technical analyses of all the coating categories proposed in the SCM; (3) meetings with districts and U.S. EPA Region IX, and industry representatives; (4) an evaluation of potential environmental impacts; and (5) an analysis of the cost impacts. ARB staff also conducted six public workshops and several meetings and conference calls with individual manufacturers and other interested parties. Table ES-3 provides a chronology of the major meetings held during the SCM development process.

Table ES-3 - Chronology of the Automotive Coatings SCM Development		
Date	Meeting	Location
April 6, 2005	District Working Group	Sacramento
April 27, 2005	District Working Group	Sacramento
May 26, 2005	Industry and District Conference Call	Sacramento
June 8, 2005	Industry Symposium	Contra Costa College
June 11, 2005	Industry Meeting	Anaheim
June 14, 2005	District Working Group	Sacramento
June 28, 2005	Public Workshop	Diamond Bar
June 30, 2005	Public Workshop	Sacramento
August 9, 2005	Public Workshop	Fresno
August 11, 2005	Public Workshop	Oakland
August 23, 2005	Public Workshop	Diamond Bar
October 5, 2005	Public Workshop	Sacramento

Who has participated in the process?

The districts, the U.S. EPA, automotive coatings manufacturers and marketers, trade associations, and representatives of automotive refinishing facilities have been active in the development of the proposed SCM.

What information was gathered in the ARB's 2002 Automotive Coatings Survey?

The ARB's 2002 Automotive Coatings Survey (2002 Survey) collected detailed sales and formulation data from 17 manufacturers that sold automotive coatings in California in 2001. This information was collected by coating category, and was provided either on a product specific basis, or for a group of products in the case of color coatings. The 2002 Survey also requested for each product, or group of products, the complete formulation (the specification of the VOC ingredients, exempt solvents, and solids). See Appendix B for complete details of the type of information collected as part of the 2002 Survey. The technical information gathered in the 2002 Survey was used, along with other information, to develop the proposed SCM.

Did ARB staff evaluate alternatives to the proposed SCM?

Yes. Under the California Environmental Quality Act (CEQA), project alternatives should be identified in the Environmental Impact Assessment. Alternatives include measures for attaining the objectives of the proposed project. The alternatives analysis provides a means for evaluating the comparative merits of each alternative. An alternative evaluating the merits of not having the project must also be included. The alternatives considered feasible are then evaluated for potential environmental impacts that may result from their implementation.

The following alternatives were considered, but were rejected in favor of the proposed SCM:

- 1) No project, assuming that the SCM will not be adopted; and
- 2) Extending the effective date from January 1, 2009 to January 1, 2010;

The no project alternative was rejected because it would not achieve emission reductions necessary to attain the State and federal ambient air quality standards. The extended effective date alternative was rejected because compliant coatings are currently available or will be available before the proposed effective date of January 1, 2009.

How were the proposed VOC limits in the SCM established?

Although some of the VOC limits in the proposed SCM are equivalent to those in SCAQMD's Rule 1151, ARB staff performed an independent analysis of each of the proposed VOC limits. These analyses are included in Chapter IV of the staff report. In proposing each of the VOC limits, ARB staff considered: (1) the results of the ARB's 2002 Survey; (2) the number of complying products currently on the market; (3) discussions with coating manufacturers, marketers and representatives of automotive refinishing facilities; and (4) trade journals and other literature related to the product category. As mentioned previously, the proposed VOC limits are the result of extensive interaction with the affected coatings industry, including discussions during six public workshops and several meetings and conference calls. Although each of the proposed limits is based on factors unique to each individual coating category, the following guiding principles were applied:

- Technological and commercial feasibility - assuring that reformulation technologies will be available by the effective date for each proposed limit, and that the overall performance of complying products will be similar to that of noncomplying products.
- Emission reductions achieved - assuring that our overall proposal will achieve the maximum feasible reduction in emissions.
- Minimize the potential for the use of Toxic Air Contaminants (TAC) - assuring that the proposal can be met without a significant increased use of TACs.

IV. COMPLIANCE WITH THE SCM PROPOSAL

How will manufacturers reformulate their products to comply with the VOC limits?

Manufacturers of coatings above the proposed VOC limits will need to reformulate some of their products to meet the applicable VOC limits. Manufacturers have the flexibility to choose any formulation that meets the applicable VOC limits and the reformulation options vary with each coating category (see Chapter IV of the staff report). In general, VOC solvents will need to be reduced by increasing the amount of water, exempt solvents, or coating solids. In solvent-borne products, VOC solvents may be partially replaced with exempt solvents such as acetone, parachlorobenzotrifluoride (PCBTF) or tertiary butyl acetate (if districts exempt TBAC from their VOC definitions). These changes may also require the use of different resin systems. For example, a higher solids formulation may need to use a less viscous resin system to improve flow and leveling. Solvent-borne products may also be reformulated to a water-borne system. As mentioned previously, ARB staff has proposed VOC limits that can be met without an increase in the use of TACs.

For the color coating category, there are water-borne coatings available that meet the proposed VOC limit. Water-borne color coatings have been used in Europe for about ten years and are being mandated there as of January 1, 2007. Manufacturers' literature for water-borne color coatings indicate that they perform as well as solvent-borne color coatings when applied properly.

Manufacturers have stated that additional color development is required before the water-borne color coatings that are currently marketed in Europe can be fully introduced in California. While manufacturers have indicated that most likely they will meet the color coating limit with water-borne coatings, they do not rule out the possibility of a solvent-borne reformulation option.

Are the VOC limits proposed in the SCM technologically and commercially feasible?

Yes. Most of the VOC limits in the proposed SCM are based on coating technologies that have been available since 2001. ARB staff analyzed our 2002 Survey data, consulted with coating manufacturers, evaluated coatings being used in Europe, and reviewed technical literature to determine appropriate VOC limits. As explained in detail in Chapter IV of the staff report, staff believes all of the VOC limits in the proposed SCM are technologically and commercially feasible by the effective date.

Our 2002 Survey results demonstrate that for nearly all the coating categories proposed in the SCM, products are currently available that comply with the proposed limits. Nine of the twelve categories for which we are proposing VOC limits have products that would meet the proposed limits. The complying marketshares vary with each coating category; however, this is not unexpected since the current VOC requirements also vary throughout the State. The coating category called "any other coating type" has no complying products because it was established as a catch-all category for which no products were reported in the 2002 Survey. Only two coating categories with reported products, adhesion promoters and pretreatment coatings, do not currently have compliant products in the marketplace. However, at least one coating manufacturer has indicated that they will sell compliant coatings in these categories prior to the 2009 effective date. Staff will conduct a technology assessment approximately one year prior to the implementation date for all the VOC limits that are more stringent than existing district limits. This technology review is a standard practice for identifying any unanticipated problems prior to implementation of the proposed VOC limits.

Will the reformulated products perform similar to existing products?

Yes. ARB staff concluded that the performance of the compliant products would be similar to the performance of their higher VOC counterparts. This conclusion is based on:

- 1) The current availability of complying products in the marketplace;

- 2) ARB staff's analyses of each product category, as detailed in Chapter IV; and
- 3) The extended use of complying products both here and in Europe in the case of water-borne color coatings.

What will the automotive refinishing facilities need to do to comply with the proposed SCM?

Automotive refinishing facilities will need to use compliant coatings or use control devices to reduce VOC emissions from their operations. Currently, only a few automotive refinishing facilities use control devices to reduce VOC emissions. If manufacturers comply with the proposed VOC limit for color coatings with water-borne coatings, automotive refinishing facilities may need to purchase air movement equipment and may need to install heaters to accelerate drying. There are several technology options that can be used by automotive refinishing facilities depending on their specific needs and their current equipment configurations. Smaller facilities may be able to purchase less expensive air movement equipment and may not need to install heaters because they have a lower volume of production. Chapter VII and Appendix C present our analysis of the costs automotive refinishing facilities may incur to comply with the proposed SCM.

What are the emission reduction benefits from the automotive coatings SCM proposal?

The total emission reduction from statewide implementation of the proposed VOC limits is estimated to be about 13.4 tons per day (tpd) in California. This reduction equates to about a 63 percent reduction in the total VOC emissions from the coating categories in the SCM.

Table ES-4 shows the estimated emission reductions by coating category.

Table ES-4 - Estimated Emission Reductions from Automotive Coatings

Coating Category	Emission Reduction (tpd)
adhesion promoter	.02
Clear coating	1.61
Color coating	8.78
Multi-color coating	N/A
Pretreatment coating	.21
Primer	1.01
Single-stage coating	1.68
temporary protective coating	<.01
Truck bed liner coating	<.01
underbody coating	<.01
uniform finish coating	.05
any other coating type	N/A
Total	13.4

V. ENVIRONMENTAL IMPACTS

Both CEQA and ARB policies require the ARB to evaluate the potential adverse environmental impacts of proposed projects. The ARB is authorized to prepare a plan or other written document (such as an environmental analysis chapter in the staff report) in lieu of an environmental impact report. Chapter VI presents a detailed analysis of the environmental impacts of the proposed SCM.

What are the expected environmental benefits of the automotive coatings SCM?

The primary environmental benefit of the SCM will be a reduction in the formation of tropospheric (ground level) ozone, PM_{10} and $PM_{2.5}$. It has long been known that exposure to ground level ozone, PM_{10} and $PM_{2.5}$ have adverse impacts on public health. Research has shown that, when inhaled, ozone, PM_{10} and $PM_{2.5}$ can cause respiratory problems, aggravate asthma, and impair the immune system.

In the presence of sunlight, the VOCs from automotive coatings and other sources react with oxides of nitrogen (NO_x) to form ozone. In addition, VOCs have been found to be a source of PM_{10} and $PM_{2.5}$, either through condensation of the VOCs or complex reactions of VOCs with other compounds in the atmosphere. Therefore, districts that adopt the SCM will reduce their VOC emissions and experience a positive impact on air quality and public health. The exact reductions in ozone, PM_{10} and $PM_{2.5}$ cannot be accurately predicted due to the wide variety of factors that impact the formation of ozone, PM_{10} and $PM_{2.5}$. These factors include atmospheric conditions, the ratio of VOCs to NO_x in the atmosphere, and the reactivity (ozone formation potential) of the individual VOCs emitted. However, numerous scientific studies have shown that by reducing VOC emissions, ozone, PM_{10} and $PM_{2.5}$ concentrations are reduced. Therefore, by reducing ozone and PM concentrations, this SCM would reduce the health risks posed by exposure to these pollutants.

Additionally, automotive coatings contain several known TACs such as toluene, xylenes, and methyl ethyl ketone (MEK). To the extent these are reduced by the reformulation to lower VOC coatings, there would be a decrease in TAC emissions. Currently, these compounds account for over 27 percent of the VOC emissions. If districts exempt TBAC from their VOC definitions, it may be used as a substitute for toluene, xylenes and MEK, which would decrease the use of these TACs. The extent of TBAC substitution could vary by coating category, however, it is believed that as much as 50 percent of the toluene, xylenes, and MEK could be replaced with TBAC. Because many automotive refinishing facilities are located in or near low-income residential areas, decreasing TAC emissions from automotive coatings would benefit environmental justice communities.

Are there any potential significant adverse environmental impacts?

No. In Chapter VI, we examined the potential effect of the proposed SCM on air quality, water demand, water quality, public services (public facility maintenance, fire protection), transportation and circulation, solid waste/hazardous waste, and hazards to the public or the environment. Based on our analysis, we do not expect any significant adverse environmental impacts to result from the implementation of the proposed SCM.

There is a slight potential for an adverse environmental impact if districts exempt TBAC from their VOC definitions. The Office of Environmental Health Hazard Assessment has determined that TBAC is a potential carcinogen because it metabolizes to tertiary butyl alcohol. Assuming under a worst-case scenario that TBAC is substituted for 50 percent of the toluene, xylenes, and MEK in automotive coatings, the maximum potential cancer risk is estimated to be 2.8 excess lifetime cancer cases per million for a resident living near the largest known auto body shop (1,100 gallons per year). However, if the VOC limit for color coatings is met with water-borne coatings, the maximum potential cancer risk would be reduced to about 1.4 excess lifetime cancer cases per million.

VI. ECONOMIC IMPACTS

How did ARB staff evaluate the potential economic impacts of the proposed SCM?

ARB staff evaluated the economic impacts of the proposed SCM by: 1) contacting coating manufacturers; 2) comparing the ingredient costs of typical low VOC formulations with higher VOC formulations; and 3) contacting spray booth equipment and air movement equipment manufacturers. The analysis assumes that all districts adopt the proposed SCM, including areas that are now subject to the U.S. EPA National Rule. As detailed below, this information was used to perform a business impacts analysis and a cost-effectiveness analysis for the SCM.

How was the business impacts analysis conducted and what are the results?

In our economic impact analysis, we evaluated the potential impact of the proposed VOC limits on profitability and other aspects of businesses subject to the limits. To conduct our analysis, we relied on information provided by coating manufacturers, ingredient costs for typical complying and noncomplying formulations, and information from manufacturers of spray equipment and air movement equipment. We then evaluated the impact of these costs on typical businesses using a combination of publicly available financial databases (Dun and Bradstreet and Ward's Business Directory of United States Manufacturing Industries), industry journals/literature such as the Chemical Market Reporter, and discussions with industry representatives.

We utilized the change in “return-on-owner’s equity” (ROE) as an indicator of the SCM’s potential impacts on business profitability. The cost to comply with the proposed SCM, through increased research and development, equipment purchases, and increased ingredients costs is presumed to impact a business’ ROE and therefore its profitability. Our analysis indicates that the total annualized cost to comply with the proposed SCM is about \$14 million. The average annual cost to automotive coating manufacturers is estimated to be about \$320,000. This results in an average estimated change in ROE of 0.07 percent. The average annual cost to automotive refinishing facilities is estimated to be about \$3,400 resulting in an average change in ROE of 15 percent. This cost estimate assumes that coating manufacturers pass on all of their costs to the automotive refinishing facilities. The estimated change in ROE for automotive refinishing facilities would be significant if the costs are not passed on to the consumers.

Our ROE analysis for the proposed SCM may overestimate the impact on businesses because it assumes that all of the costs of the proposed SCM will either be absorbed by the coating manufacturers or the automotive refinishing facilities. In reality, we expect that at least some of the investment costs to comply with the proposed VOC limits will be passed on to consumers. For example, an automotive refinishing facility could pass their entire costs on to consumers by adding \$11 to an average repair cost. Adding \$11 to an average repair cost would increase the repair cost by only 0.5 percent. The analysis also does not quantify the extent of cost mitigation due to “technology-transfer” between product lines.

While we expect that most businesses will be able to absorb the costs of the proposed limits without significant adverse impacts on their profitability, there is the possibility that some individual businesses will be adversely affected when districts adopt the proposed SCM. Therefore, it is possible that the proposed SCM may have a significant adverse impact on some businesses that are not in a market position to invest monies to develop new low VOC products, or to absorb the increased cost resulting from their compliance with the proposed SCM.

Based on our analysis, we do not expect the proposed limits in the SCM to have a significant impact on employment, or business creation, elimination, or expansion. We also do not expect the proposed SCM to have a significant impact on the competitiveness of California businesses compared with those outside of California. This is because all companies that sell these products in the State would have to meet the proposed requirements, whether located in or outside of California.

The VOC limits in the proposed SCM will primarily impact automotive coatings manufacturers and automotive refinishing facilities that use those coatings. However, we recognize that other industries could also be impacted to a lesser amount, which is difficult to quantify. These industries include distributors, retailers, and “upstream” suppliers who supply solvents and other chemicals used in automotive coatings.

Distributors and retailers could be impacted because they need to ensure that noncomplying products are not sold after the implementation date. In addition, the current market dynamics are such that often distributors or manufacturers provide incentives to customers in order to obtain and maintain accounts. While this is the cost of doing business, the changes may require some new equipment that distributors would likely be expected to provide. However, we are unable to quantify the magnitude of such costs because industry wide data are not available nor are the incentives consistent across the industry.

Upstream suppliers could be impacted because manufacturers will be purchasing some different solvents and other materials for their reformulated products. However, we do not expect these changes to result in a major impact on the affected industries because chemical companies generally supply many different industries, and because many of the upstream suppliers also provide the alternative products which will be used in the reformulated products. In fact, we expect some upstream suppliers will benefit since the proposed limits are likely to create new or increased demand for materials to be used in compliant formulations.

Will the proposed SCM be cost-effective?

Yes. Cost-effectiveness is one measure of the SCM's efficiency in reducing a given amount of pollutant (often reported in "dollars (to be) spent per pound of VOC reduced"). The methodology used to determine cost-effectiveness is well established and often used to compare a proposed regulation's cost-efficiency with those of other regulations. To calculate the cost-effectiveness of the SCM, we divided the estimated total annual cost to manufacturers and automotive refinishing facilities by the total emission reduction. To conduct our analysis, we relied on specific formulation data from the 2002 Survey, industry journals/literature such as the Chemical Market Reporter for ingredient unit prices, and discussions with industry representatives. We estimate the cost-effectiveness weighted by emissions reductions across all the proposed limits to be about \$1.43 per pound of VOC reduced. This estimated cost-effectiveness value is within the typical range of costs of existing ARB control measures and district rules.

Will automotive refinishing facilities have to pay more for automotive coatings subject to the proposed SCM?

Yes. Automotive refinishing facilities may have to pay more for some products subject to the automotive coatings SCM, depending on the extent to which manufacturers are able to pass along their costs to automotive refinishing facilities. While the raw material costs for compliant coatings is comparable or, in some cases, less costly than that of higher VOC coatings, typically there is a premium charged by paint manufacturers for new coatings. It is not possible to quantify the potential price increase per gallon of coating because most manufacturers did not provide cost data as part of the survey.

Will consumers have to pay more for automotive repairs?

Yes. As discussed in Chapter VII of the staff report, assuming that all the costs of the proposed SCM are passed along to the consumers who need automotive repairs, the average cost of a repair would increase by about \$11. The average repair cost is estimated to be about \$2,200.

VII. FUTURE PLANS

What happens if the Board approves the proposed SCM?

If the Board approves the proposed SCM, staff will assist the districts, if requested, as they embark in their own rulemakings to incorporate the SCM into their local rules.

Will ARB staff track industry's progress toward meeting the proposed VOC limits?

Yes. Staff plans to conduct technology assessments for all of the proposed VOC limits that are more stringent than existing district limits at least one year prior to the 2009 effective date. We believe that the proposed limits are feasible based on all the evidence available to us. However, it is standard practice for the ARB to conduct these reviews to ensure that unanticipated problems do not arise.

VIII. RECOMMENDATION

Staff recommends that the Board approve the proposed SCM and direct staff to transmit the SCM to the districts for consideration.